

*A Continuation of the Experiments made by Monsieur Hugen, and
 * Compare Mr. Boyles M. Papin, in the Air Pump; which are about
 New Experiments about the Preservation of Bodies *.*

in *Vacuo Boyliano*, printed, together with other Tracts, A.1674.

TO know, whether the *Vacuum* would be of use to the *Pre-
 servation of Bodies*, I took an Apple, and included it with
 such a *Cover*, as is described formerly in our Method of taking a-
 way an exhausted Recipient from off the Engin. The Apple I
 chose, had a little speck of rottenness, and I did purposely in-
 clude some water in the same Recipient, thereby to promote the
 corruption in case any should come to pass. But I have not

* These Experiments were
 printed at *Paris* in French, in
 the year 1674.

found that any change happened to this
 Apple since the third of *April*, 1673.
 which was the day on which I included
 it *.

The seventh of *June* I included in a Receiver two Nosegays of
 Roses, one suspended at the top, the other having its tail in a little
 Vessel full of water. I also put in the same Receiver a Gage four
 Inches long, to know whether any Air would be there produced.
 Two days after I found my Roses a little wither'd, and the water
 already risen to eight or ten lines, near the top of my Gage; and
 after that, the changes of these Flowers became still less, so that at
 this present time they are not much more wither'd, and the water
 of the Gage is by three or four lines near the top. The Roses
 which lye dipt in the water are as much wither'd as the others, and
 as soon. I shall keep them in this condition as long as I can. Other
 Roses which I had included at the same time, but *with Air*, grew
 mouldy in less than eight days.

At another time I included one single *Rose-button* in a very little
 Glass, to learn, whether it would keep its Scent. At the end of
 fifteen days it look'd a little less fresh, but was not at all wither'd;
 and having taken it out, I found, it had still its good smell; but af-
 ter that, it lost all both colour and smell in less than two hours. I
 must also add, that its leaves did not appear moist in the *vacuum*,
 but they looked all moist as soon as they were in the Air. Which
 shews, that the parts of the leaves had acted as Springs, like as Spun-
 ges do, and that the weight of the Air coming to press upon them,
 did

did express the humidity which had insinuated it self between the parts thus expanded.

I did also include some *Gilliflowers*, which changed but very little; only they looked as if they had been dipped in water.

Having included some *Strawberries*, at the end of two days they look'd less fresh; but after that, seeing they changed no more, I took them out of the *vacuum*, after they had been there fifteen days. They had still the smell and taste of Strawberries; but they had also contracted a very ungrateful taste of the cement which I then employed to close them up with.

At another time, I put up some *Strawberries* without cement, making use of a skin after the manner described formerly, and I then observ'd nothing new, except that their taste kept good, but was a little sourish, and that they yielded a little water.

The 24th of *June* I included some *Cherries*, to the number of 25 or 30, in a Receiver which was almost filled with them. They all burst but two. Two days after they had a little changed their colour, and those two that before remain'd whole, were now burst like the rest. After that, I observ'd no more change in them, and I shall keep them also as long as I can.

The 20th of *July*, I included in the *vacuum* one *Cherry* with eleven great *Corants*. The *Cherry* burst presently, and after that, I found it not changed, only it appear'd turn'd, as the *Corants* also did: This is a beginning of putrefaction, which may be imputed to the Air that remains in the Receivers. These fruits I shall also keep as long as may be.

The 27th of *July*, I included in the *vacuum* four *Rasberries* and three *Corants*. The latter appear'd also to be turn'd, and the *Rasberries* looked less fresh than they were. But 'tis now more than five months that I perceive no change in them. I mean to keep them likewise as long as I can.

Hitherto I had employed none but *small* Receivers, which did just hold that little fruit I put in them, and the red *Corants* seem'd to keep well enough; so that one day I fill'd a great *Glass* (of the figure of *Cupping-glasses*) with them, hoping to keep that as well as the *small* Receivers. But I was surpris'd, five days after, to see that bubbles were formed in the *Turpentin* which I had put about the said great *Glass* in the place where it was fastned to its cover, and that these bubbles were burst outwards; and afterwards, having

seen that the cover held fast to the Bolt-head no longer, I made no doubt of the Corants having produced Air enough to lift up the said great Glass, and to form in the Turpentin the bubbles I had seen. I was confirmed in this thought, when I found by the smell that they had fermented. They were yet good, except some that had lost almost all their taste, and all their acidity.

The same thing hapn'd to me with a very small Receiver, that could hold no more than one *Cherry* (of that kind we call *Bigarreaux*) and one red *Corant*. These fruits yielded also Air enough to lift up their Receiver *seven* days after they had been included therein: And having reiterated this Experiment, I found the same success; only this second time the Receiver was not lifted up till the *eleventh* day. This effect is rather to be ascribed to the *Cherry* than the *Corant*; because I have kept *Corants* to the number of *eleven* in a small Glass, and they did not raise it up. Whence it follows, that these *Bigarreaux* yield much more Air than Acid fruit.

Another time I included some of the same kind of *Cherries* a whole great Glass full, and found, that from the *second* day they had yielded Air enough to lift up the cover. I took away part of the *Cherries*, and included the rest again. This second time they did not raise the Glass till the *eighth* day. The *Cherries* looked fair, but they had lost much of their taste, and afterwards they were spoiled in less than an hour.

I did also one day include three *Pears*, of that sort we call *Rouffelet*, in a like figured Glass, which could hold no more. They lifted up the Glass at the end of *five* days, and they were not changed, only one of them was a little softer.

Another time I put a *Peach* in such a Glass emptied of Air, with a Gage to it; and I found, that the first *six* hours the *Quicksilver* in the Gage was risen about an inch. Yet it was not till the *thirteenth* day that the Glass was lifted up; and the *Peach* appeared to have kept very well till then; but after that, it rotted in a very little time.

I did once put up some *Bread* with a Gage; but I found not that for the space of a whole month it had yielded any Air; so that I took it out, and found it yet good; only it had a little taste of mustiness, which yet appeared not at all to the Eye, and whereof the cause may be ascribed to that little Air that might rest in the Receiver.

One day I included a piece of *roasted Mutton* with a Gage, and found, that in *four* days it had yielded no Air; but after my absence of six weeks I saw the Mercury was risen to the middle of the Gage; and having taken out the meat, I found it of a very ill smell.

Two days after; I included a piece of *raw Beef* and a Gage with it, and I saw, that in two days the Quicksilver was risen an inch in the Gage; and after six weeks absence, I found, the Mercury was got almost to the top of the Gage, and that this meat had contracted a much worse smell than that which had been roasted.

I also kept for *fifteen* days a piece of fresh *Butter* in *vacuo*, and I found, that it smelt more strong than when I first put it in: But yet it could be still eaten upon bread; whereas another piece of *Butter*, which at the same time I had kept in the Air, was altogether unfit to be eaten.

These are almost all the Experiments I have made touching the Conservation of Bodies in *vacuo*. The Gentlemen of our *Royal Academy*, who saw most of them *July* last, thought them worthy to be entred in their Register, esteeming, that besides the consequences they might afford for Natural Philosophy, some other utilities might also be drawn thence. For, since that some Bodies do better keep there than others, some may possibly be found, that will keep there altogether well, and others that will there keep well enough to be transported into places where they could not be had else.

A Letter of Mr. Flamsteed, Professor Regius of Astronomy in London, to Sir Jonas Moor Knight, &c. containing his Observations of the late Lunar Eclipse, on Decemb. 21. 1675.

Illustri Viro

Domino *Jonæ Moor*, Equiti Aurato, Rei Tormentariæ per *Angliam & Hiberniam* Supervisori Generali, *Joh. Flamstedius*, Bene agere & rectè valere.

Nisi Cælum à Meridie, hunc Defectum precedente, nubibus densissimis, pluviam continuam, & vento validissimo inhorrescens, omnem ferè spem optatæ serenitatis abstulisset, iterque huc per flumen adnavigantibus periculosum admodum recididisset, plus tibi propter *Mini-*
strè